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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,633	12/05/2001	John Whittier Slemmons	A11-26124 D1	9245

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EXAMINER

GRAYBILL, DAVID E

ART UNIT PAPER NUMBER

2827

DATE MAILED: 11/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/005,633

Applicant(s)

SLEMMONS ET AL.

Examiner

David E Graybill

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HL

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-28,30-32,34 and 35 is/are pending in the application.

4a) Of the above claim(s) 26 is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 25,27,28,30-32,34 and 35 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☒ Claim(s) 26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Newly submitted claim 26 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The limitation, "comprising a release layer formed from a material selected from the group consisting of polyimide and parylene" is directed to patentably different species than the originally claimed tungsten release layer.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 26 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors n, at the time the application was filed, had possession of the claimed invention. In particular, the undescribed subject matter is the

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embodiment wherein at least one of the microbeams comprises solder coating a portion thereof, the solder dam for preventing solder from wetting along a portion of the microbeam not coated with solder, and wherein the bump is comprised of aluminum.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 25, 27, 28, 31, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hatada (4784972) and Moore (5281684).

At column 3, line 30 to column 4, line 63, Hatada teaches the following:

25. A microbeam assembly adapted to form interconnects between integrated circuit bond pads and substrate contacts, the microbeam assembly comprising: a carrier 10; a plurality of conductive microbeams 12 releasably bonded to the carrier, wherein the conductive microbeams are sized and spaced to mate with the bond pads 14 of an integrated circuit 16, and wherein at least one of said conductive microbeams comprises solder coating a portion thereof.
27. A microbeam assembly according to 25 wherein the carrier is substantially rigid.
28. A microbeam assembly according to 25 wherein the carrier comprises fan-out conductors 12b for electrical testing of an integrated circuit.
31. A microbeam assembly according to 25 wherein at least one microbeam comprises a bump 12A.
32. A microbeam assembly according to 31 wherein the bump is comprised of solder.

34. A microbeam assembly according to 31 wherein the bump is comprised of gold.

To further clarify the teaching wherein at least one of said conductive microbeams comprises solder coating a portion thereof, as cited, Hatada teaches that the microbeam comprises solder; therefore, it comprises solder coating a portion thereof.

However, Hatada does not appear to explicitly teach a solder dam positioned on a surface of said at least one conductive microbeam comprising solder opposite said carrier, said solder dam for preventing solder from wetting along a portion of said microbeam not coated with solder.

Nonetheless, at column 3, lines 17-30, Moore teaches a solder dam 28 positioned on a surface of a conductive microbeam comprising solder 30 opposite a carrier 18, the solder dam for preventing solder from wetting along a portion of the microbeam not coated with solder. Moreover, it would have been obvious to combine the product of Moore with the product of Hatada because it would prevent solder from wetting along a portion of the microbeam.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hatada and Moore as applied to claim 25, and further in combination with Chen (2001/0027922).

Hatada does not appear to explicitly teach the following:
30. A microbeam assembly according to 25 wherein the release layer comprises tungsten.

Nevertheless, at paragraph 0034 to paragraph 0038, and paragraph 0043 to paragraph 0045, Chen teaches a tungsten release layer 16. Furthermore, it would have been obvious to combine the product of Chen with the product of the combination of Hatada and Moore because it would provide a release layer.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hatada and Moore as applied to claim 31, and further in combination with Barajas (4659399).

Hatada does not appear to explicitly teach the following:
35. A microbeam assembly according to 31 wherein the bump is comprised of aluminum.

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Regardless, at column 1, line 61 to column 2, line 22, Barajas teaches an aluminum solder. In addition, it would have been obvious to use the solder of Barajas as the solder of the solder bump of the combination of applied prior art because it would provide a solder bump.

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions similar to the instant invention.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is 703/308-7722.



David E. Graybill
Primary Examiner
Art Unit 2827

D.G.
13-Nov-02